

REMARKS

Claims 1-48 were pending in the current application. Applicants have canceled claim 41, without prejudice. Accordingly, claims 1-40 and 42-48 are currently under consideration in the present application. Applicants have amended independent claims 1, 38, and 43 to more clearly recite features of Applicants' invention. Claims 2-4, 7-37, 39, 40, 42, and 44-48 have been amended to correct minor informalities. No claims are newly presented. No new matter has been introduced by any of the amendments provided herein.

Claim Objections Should Be Withdrawn

Claims 1 and 38 are objected to due to minor informalities. Applicants have amended these claims to address the objections. Applicants respectfully request that the objections to the claims be withdrawn.

Rejections under 35 U.S.C. §103 Should Be Withdrawn

Claims 1-48 stand rejected under §103(a) as being unpatentable over the WinRunner 7.0 Tutorial, Mercury Interactive Corp. 2000 ("WinRunner") in view of U.S. Patent Publication No. 2004/0107415 to Melamed et al. ("Melamed"). This ground of rejection is respectively traversed.

Independent Claim 1

Independent claim 1 as amended herein recites a method for generating platform-specific test scripts for an application which includes, inter alia, **converting a test case to an abstract representation using semantic analysis, wherein the abstract representation comprises at least three components, and wherein the at least three components include at least one application state, at least one external interaction sequence, and input data**. The Examiner alleges that WinRunner discloses these limitations. (See Office Action, page 6). Applicants respectfully disagree.

The Examiner fails to identify any semantic analysis which is used to convert a test case into an abstract representation, as recited in independent claim 1. An example of a semantic analysis approach to decomposing an imported test case is shown, e.g., in FIG. 7 of the present application and referenced in paragraph [0031]. Neither WinRunner nor Melamed discloses any such semantic analysis used for converting a test case into an abstract representation.

The Examiner alleges that the conversion of recorded tests into sequences of interactions and GUI Maps, as described in WinRunner, corresponds to such an abstract representation of a test case. (Id.) Applicants respectfully disagree. The GUI Map described in WinRunner identifies certain properties of GUI elements in the software application being tested. (See WinRunner, pp. 22-26). A GUI Map can be created for each test generated by a user of the WinRunner program. (See WinRunner, pp. 27-29). However, the GUI Map merely describes properties and status of individual GUI elements which are present in a tested application and recorded in a platform-dependent format.

Further, WinRunner does not provide an abstract representation of a test case which includes three **separate** components, i.e., application states, external interaction sequences, and input data, as recited in amended independent claim 1. The Examiner alleges that the WinRunner procedures of choosing a record mode, recording a context sensitive test, recording in analog mode, and performing operations on applications under tests provide such components of an abstract representation of a test case. (See Office Action, page 6). Applicants respectfully disagree. WinRunner does not provide an abstract representation of a test case which includes external interaction sequences (and application states) that are separate from input data. As described on page 35 of WinRunner, the recording modes merely allow generation of automated test scripts by **recording specific user operations** and **generating statements in TSL, Mercury Interactive's Test Script Language**. (See WinRunner, p. 35). WinRunner generates test scripts which **contain test data embedded in test steps** (i.e., in external interaction sequences). Manual parameterization is done to remove data dependency and enable scripts to run with multiple test data. In contrast, amended independent claim 1 recites a method in which test data and external

interaction sequences (test steps) are separated when test cases are converted to abstract representations using semantic analysis.

Accordingly, WinRunner does **not** import a test case and convert it into an abstract representation which includes the three components recited in claim 1. Instead, the recording modes in WinRunner allow a user to **generate a specific test script in a particular script language** (TSL) by recording interactions of the user with the application being tested. Melamed does not cure this deficiency, and the Examiner does not contend that it does.

The Examiner acknowledges that WinRunner does not explicitly disclose using environmental mappings to provide platform independence of test cases, and alleges that Melamed does. (See Office Action, page 7). Applicants have amended claim 1 to recite that the **environmental mapping is used to generate at least one platform-specific test script based on the abstract representation**. Support for this amendment is provided, *inter alia*, in paragraph [0055] of the specification. As described in detail above, neither WinRunner nor Melamed provides an abstract representation of a test case as recited in independent claim 1. Further, Melamed does not disclose use of environmental mappings to generate a platform-specific script based on an abstract representation of a test case, as recited in amended independent claim 1. Instead, Melamed discloses the use of “platform-neutral data representation protocols” such as XML which allow communication of **platform-specific test cases** and other data between a server and a host machine. (See Melamed, paras. [0071], [0076]). Such test cases are formulated in a **specific** scripting language and parsed for a **specific** test environment (e.g., WinRunner or SilkTest), and are accompanied by a GUI environment file corresponding to the specific target test environment. (Id., paras. [0076]-[0078]). For example, WinRunner uses its own **tool-specific** scripting language for recording and playback to generate and execute test scripts. Melamed merely discloses a method and system for software testing via a web interface, where platform-specific recorded test scripts are parsed and run in a specific test environment. (See, e.g., Melamed, Abstract; paras. [0013]-[0014]; and FIG.18). Neither WinRunner nor Melamed, taken individually or in an alleged combination, discloses importing a test

case written in a scripting language and converting the test case to an abstract representation using semantic analysis, as recited in amended independent claim 1.

For at least these reasons, Applicants respectfully assert that the alleged combination of WinRunner with Melamed fails to disclose all of the features recited in independent claim 1 as amended herein.

Independent Claim 38

Independent claim 38, as amended herein, recites a computer system configured to perform the method recited in independent claim 1. Accordingly, for at least the reasons provided above with respect to claim 1, Applicants respectfully submit that the alleged combination of WinRunner with Melamed also fails to disclose all of the features recited in independent claim 38 as amended herein.

Independent Claim 43

Independent claim 38, as amended herein, recites a computer system configured to generate abstract representations of test cases and store them in a database, where the abstract representations have the same characteristics as those recited in independent claim 1. Accordingly, for at least the reasons provided above with respect to claim 1, Applicants respectfully submit that the alleged combination of WinRunner with Melamed also fails to disclose all of the features recited in independent claim 43 as amended herein. Specifically, the prior art relied on by the Examiner, taken individually or in an alleged combination, fail to disclose **converting a test case to an abstract representation which comprises at least three components**, and where the three components include **at least one application state, at least one external interaction sequences, and input data**.

Dependent Claims 2-37, 39, 40, 42, and 44-48

Claims 2-37 depend directly or indirectly from independent claim 1, claims 39, 40, and 42 depend directly or indirectly from independent claim 38, and claims 44-48 depend directly or indirectly from independent claim 43. For at least the reasons provided above with respect to independent claims 1, 38, and 43, Applicants

respectfully submit that the alleged combination of Melamed with WinRunner also fails to disclose all of the features recited in dependent claims 2-37, 39, 40, 42, and 44-48.

CONCLUSION

It is submitted that the present application is in form for allowance, and such action is respectfully requested. The Commissioner is authorized to charge any additional fees which may be required, including petition fees and extension of time fees, to Deposit Account No. 07-1700 (Docket No. SYM-0002).

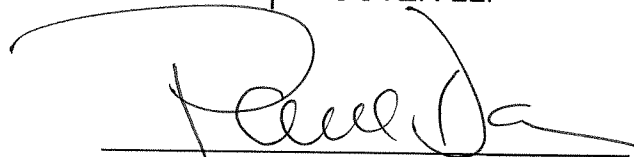
Respectfully submitted,

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